

shrink more and more in size and shape as they reach greater elevations. Both these facts bear witness to the influence of climatal conditions on the development of vegetable life.

Cereals occur exclusively on the detrital soils of the lower region. They follow the Alpine tertiary gravel in its variations of altitude; but are only able to produce a rich harvest where they grow on a detrital soil composed of lime, alumina, and silica mixed in nearly equal proportions. This same soil is likewise the most congenial to the non-cultivated plants of the lower region. If this soil be mixed with heterogeneous substances (as salts, on the sea-shore, on the banks of saline lakes, on plains with saline efflorescence, or above saliferous rocks), new genera and species, not occurring under ordinary circumstances, make their appearance.

The pine (*Pinus abies*, L.) accommodates itself to every soil, and therefore ranges from the lower to the upper region, marking the limits between, and participating in both. Its vertical oscillations correspond to those of the cereals, and to the distribution of detrital soil accessible to atmospheric heat.

New vegetable forms, together with new rocks, make their appearance in the higher rocky regions. Such are certain species peculiar to the calcareous mica-schist, as *Artemisia nana*, Sand., *Lomatogonium carinthiacum*, Rehb., *Gentiana prostrata*, Haenke, *Herniaria alpina*, L., *Braya alpina*, Hoppe, &c.

Wherever a great variety of rocks near to, or interstratified with, each other appear within a comparatively narrow space, the plants pass from one of these soils to another, undergoing at the same time frequent alterations of form; species nearly allied to each other are peculiar to such spots, producing hybrid and intermediate forms.

The distribution of genera and species in the upper region answers exactly to the geological constitution of the soil. Calcareous and mica-schistose Alps have every one their peculiar flora. Near Windisch-Matzey and Heiligenblut the mica-schist and the calcareous mica-schist floras appear side by side. At the "Tauern" of Radstadt, where nearly all Alpine rocks are heaped together, the floras of the calciferous rocks, of the mica-schist and of the calcareous mica-schist appear simultaneously.

M. Stur appended to his memoir a catalogue of about 1000 species of plants collected by him within the Alpine region, and arranged according to their localities and to the geological constitution of their native soil.

*Note on the Freshwater Dolphins of South America.*

By M. PAUL GERVAIS.

It has long been known that a peculiar species of Dolphin is an inhabitant even of the upper parts and branches of the great river Amazon, to the Indians living on the borders of which it is a creature of no small importance. It was described by M. d'Orbigny as the type of a new genus under the name of *Inia boliviensis*, by which it has since been generally known; but it appears to have been

previously described by Spix and Martius under the name of *Delphinus amazonicus*, whilst, according to M. Paul Gervais, it is identical with the *D. Geoffrensis* of De Blainville, who however supposed his specimen to come from Canada.

Besides the *Inia Geoffrensis*, M. Gervais states that the Amazon and its tributaries possess two other species of Dolphin, both, according to him, belonging to the restricted genus *Delphinus*. They will be described by him in the Zoological section of M. de Castelnau's Voyage in America, under the names of *D. pallidus* and *D. fluviatilis*.—*Comptes Rendus*, 28th April 1856, p. 806.

#### METEOROLOGICAL OBSERVATIONS FOR APRIL 1856.

*Chiswick*.—April 1, 2. Exceedingly fine. 3. Overcast: rain. 4. Densely clouded: fine, with low white clouds. 5. Fine: cloudy. 6. Fine: frosty at night. 7. Fine: cloudy: rain. 8. Rain. 9. Cloudy: rain. 10. Rain. 11. Fine: showery: rain at night. 12. Rain: cloudy and mild: fine. 13. Fine: cloudy: hazy. 14. Fine: rain: boisterous, with rain at night. 15. Overcast: cold north-east wind. 16. Fine, but cold: masses of white clouds. 17. Dusky white clouds: fine: cloudy. 18. Overcast: fine: cloudy. 19. Overcast: densely clouded: clear: frosty. 20. Fine: frosty at night. 21. Cloudless: very fine: hazy at night. 22. Overcast: cloudy: frosty. 23. Slight haze: cloudy. 24. Uniform haze: overcast: fine. 25. Foggy: very fine: rain. 26. Heavy rain: cloudy. 27. Rain. 28. Clear: fine: frosty. 29. Partially overcast: cloudy and cold. 30. Fine.

Mean temperature of the month .....	46°·48
Mean temperature of April 1855 .....	46·08
Mean temperature of April for the last thirty years .....	47·13
Average amount of rain in April .....	1·553 inch.

*Boston*.—April 1. Fine: rain P.M. 2. Cloudy. 3. Cloudy: rain P.M. 4. Cloudy. 5. Fine. 6. Cloudy: rain P.M. 7. Cloudy. 8. Cloudy: rain P.M. 9. Cloudy. 10. Cloudy: rain P.M. 11. Fine: rain P.M. 12. Rain A.M. and P.M. 13. Fine. 14. Cloudy. 15. Fine. 16—19. Cloudy. 20. Fine. 21—24. Cloudy. 25. Fine. 26. Rain A.M. and P.M. 27. Cloudy. 28. Cloudy: rain P.M. 29. Cloudy: rain A.M. and P.M. 30. Cloudy.

*Sandwich Manse, Orkney*.—April 1—3. Bright A.M.: cloudy P.M. 4. Cloudy, drops A.M.: clear, aurora P.M. 5. Cloudy, drops A.M.: clear P.M. 6. Damp A.M.: clear P.M. 7. Bright A.M.: drops P.M. 8—10. Cloudy A.M. and P.M. 11. Showers, cloudy A.M.: clear P.M. 12—14. Cloudy A.M. and P.M. 15. Cloudy A.M.: clear, fine P.M. 16. Cloudy A.M. and P.M. 17. Showers, cloudy A.M.: cloudy P.M. 18. Showers, cloudy A.M.: clear, fine P.M. 19. Clear A.M.: drizzle P.M. 20—22. Cloudy A.M. and P.M. 23. Clear A.M.: cloudy P.M. 24. Cloudy A.M.: cloudy, fine P.M. 25. Cloudy, fine A.M.: cloudy, drops P.M. 26. Clear A.M.: hail-showers P.M. 27. Hail-showers A.M.: sleet-showers P.M. 28. Sleet-showers A.M. and P.M. 29. Sleet-showers A.M.: cloudy P.M. 30. Bright A.M.: cloudy P.M.

Mean temperature of April for previous twenty-nine years ...	43°·47
Mean temperature of this month .....	44·56
Mean temperature of April 1855 .....	43·20
Average quantity of rain in April for fifteen previous years ...	1·90 inch.

The drought is quite unprecedented, only ·68 of rain having fallen for two months.